

RESPONSE TO COMMENTS
NOTICE OF DECISION
HECLA VENTURES CORPORATION
HOLLISTER DEVELOPMENT BLOCK INFILTRATION PROJECT
WATER POLLUTION CONTROL PERMIT NEV2003114
07 APRIL 2004

Comment letter dated 08 March 2004, from Steve Foree, Supervising Habitat Biologist, Nevada Division of Wildlife: *"We anticipate few conflicts with wildlife resources during this phase of the project. It will be important for Hecla to monitor the infiltration basins to determine if drowning problems develop. We are available to provide solutions to any such problems if they manifest themselves."*

NDEP response: Comment noted.

Comment letter dated 24 March 2004, from Mike Nannini, Chairman, Elko County Board of Commissioners: *"The Elko County Board of Commissioners supports the Administrator's tentative decision to issue the permit. Approval...will benefit the local economy and will not have a noticeable impact upon water quality in Elko County. This proposal will be another example of cooperation between business and government that allows for wise management of our natural resources."*

NDEP response: Comment noted.

Comment letter dated 29 March 2004, from Christie Whiteside, Great Basin Mine Watch (GBMW). Comments and NDEP responses follow.

GBMW Comment 1: *"The fact sheet and application state that the site is bounded on the north by Willow Creek, on the south by Antelope Creek, and that Little Antelope Creek, which is a tributary to Antelope Creek, passes near the project area in a north/south direction. How far are these streams from the project area? Figure 2 of the application shows the location of the streams relative to the project, but it is not drawn to scale, so it is not possible to determine the distance between the RIBs location and Little Antelope Creek. Additionally, the application states that Little Antelope Creek flows south and discharges into Antelope Creek, approximately 5 miles from the site, but does not state how far Little Antelope Creek is from the site of the RIBs."*

NDEP response 1: NDEP believes this comment is in reference to permit application package Figure No. 2 titled Surface Water Resources. Although a scale is not indicated, the map is a reproduction of a portion of the USGS 15-minute quadrangle map, which designates survey section lines and is at a standard scale of 1:62,500 (1 inch equals 1 mile). In the Appendix to the application is another Figure 2 labeled with a scale bar at 1 inch equals 2000 feet (1:24,000) and titled Potential Infiltration Basin Site Location Map, which also

illustrates the creek locations and relationships to the proposed rapid infiltration basins (RIBs). In the same Appendix, Figure 5, titled Proposed RIB Configuration and Monitoring Well Locations, provides more detail at a scale of 1 inch equals 200 feet (1:2,400). Using this latter figure, it can be determined that 1) the minimum distance between the nearest corner of the closest RIB (RIB2) and Little Antelope Creek is approximately 500 feet to the southeast across the groundwater flow gradient; 2) the minimum distance between the nearest corner of the closest RIB (RIB1) and Antelope Creek is approximately 800 feet to the southeast, across the groundwater flow gradient, and 1100 feet south along the groundwater flow gradient; and 3) Willow Creek is located approximately 12 miles north of the RIBs project site.

GBMW Comment 2: *"The minimum design criteria for Rapid Infiltration Basins (RIBs) prohibits the construction of RIBs within a distance of less than 1000 feet from a surface water body."*

NDEP response 2: It should be noted that Nevada Administrative Code (NAC) 445A regulation does not provide design criteria or engineering standards for RIBs. Although GBMW does not cite a specific reference, the statement is believed to derive from a guidance document generated by the Bureau of Water Pollution Control (BWPC), not the Bureau of Mining Regulation and Reclamation (BMRR), and the buffer distance is most likely intended for direct protection of drinking water sources. However, as discussed in NDEP response 1 above, the nearest downgradient surface water, Antelope Creek, is 1100 feet to the south, beyond the cited 1000-foot design criterion, and, as noted below in NDEP Response 3, exhibits intermittent flow. The two nearer points identified above are located roughly perpendicular to the groundwater flow gradient and all three points are outside the modeled maximum infiltration mound limit. There is also a natural break in slope on the western flank of the site that is described in the permit application package as a "no-flow boundary", which also effectively channels groundwater flow to the south.

GBMW Comment 3: *"Particularly with respect to Little Antelope Creek, which appears to be the closest surface water, there is the concern that saturated conditions around the RIB could have an adverse affect on water quality in these streams through the surface expression of infiltrated water. This would be in violation of the Clean Water Act. Neither the fact sheet nor the application states whether or not Antelope Creek is a perennial stream. If Antelope Creek is a perennial stream, the Division should require the operator to conduct continuous monitoring both upstream and downstream of the RIBs for both specific conductivity and pH to determine whether or not seepage from the RIBs is reaching the creek."*

NDEP response 3: The Hydrogeology section 2.4 of the permit application package states that “Little Antelope Creek is an intermittent stream, which flows in response to major precipitation events.” It is correct that this determination is not included for Antelope Creek in the permit application package, however, the Plan of Operation (POO) submitted to the BMRR Reclamation Branch in support of the reclamation permit application states, at section 3.7.6, “Little Antelope Creek is an intermittent drainage that is a tributary to the *intermittent* [italics added] drainage of Antelope Creek...” Figure 16 of the POO illustrates these intermittent stream locations and the physical relationship relative to the RIBs. Although neither stream is perennial or is anticipated to be affected by the proposed project, the Permittee has agreed to add to the permit monitoring requirements, quarterly Profile I water quality analysis of an upgradient sample from Little Antelope Creek (when flowing), an upgradient and downgradient sample from Antelope Creek (when flowing), and monthly sampling, in lieu of quarterly sampling, of the three water quality monitoring wells located at the RIBs site for a 12-month period once discharge to the RIBs is initiated.

GBMW Comment 4: *“Column testing performed using water from BH-01 indicated that arsenic, barium, chloride, fluoride, magnesium, nitrate, sulfate and TDS would be mobilized from soils during infiltration. Although concentrations did not exceed the respective MCLs, some of the concentrations were close to the MCLs, particularly for arsenic, TDS, and sulfate. Column testing, while a useful test to determine which constituents may be mobilized during infiltration, is less useful when it comes to predicting long-term in-situ conditions. Groundwater beneath the proposed RIBs is relatively shallow at 23-25 feet below the ground surface. There is a valid concern that the constituents mobilized from the soils beneath the RIBs will eventually lead to groundwater degradation... The fact sheet and the application state that attenuation test data and mass balance calculations show that manganese concentrations in the discharge water are 100% attenuated by RIBs soil. How will saturated conditions affect attenuation? Additionally, the fact sheet goes on to state that when the solution holding capacity of the RIBs soil is taken into consideration, that the subsurface infiltration of exploration decline water discharged to the RIBs is not expected to degrade groundwater. Because various contaminants will likely be mobilized during column testing of discharge water and RIBs soil, please explain this statement and how the Division arrived at this conclusion.”*

NDEP Response 4: The testing performed was extensive, followed the scientifically accepted methodology recognized by the Division, and used preserved water and soil samples collected from the proposed dewatering and infiltration sites. NDEP accepts the results and conclusions of this test work as reflected in the reports provided in the application package. Based on the data, the discharge to the RIBs is not expected to degrade groundwater.

GBMW Comment 5: “What is the rationale for setting the point of discharge permit limitation for manganese above the average receiving water value of .41 mg/L? The permit limitation is 0.45, which is also well above the average concentration of 0.13mg/L for water samples taken from decline boreholes.”

NDEP Response 5: The permit limitation for manganese was based on the maximum naturally occurring value observed in sampling the **receiving water** and is not based on an average value. Data indicate the receiving water is of notably lower quality than the discharge water.

GBMW Comment 6: “Please expand upon how the wet/dry cycle will be carried out. Neither the draft permit, nor the fact sheet gives any information about the wet/dry cycle during RIB operation. The application mentions it in the operations section, but does not give any details about how the wet/dry cycle will be carried out. The permit and fact sheet should at least give cursory details of the wet/dry cycle, and perhaps include compliance schedules.”

NDEP Response 6: NDEP believes the monitoring and management requirements and the operating limits incorporated in the permit, which are based on the modeling, provide the best means to evaluate and optimize operation of the RIBs. NDEP has regulatory authority to modify terms of a permit if conditions warrant.

GBMW Comment 7: “The Division should consider requiring water quality monitoring of the vadose zone around the RIBs. While the guidelines do not require this, too often we see monitoring that could have detected problems before they reach aquifers implemented only after degradation has occurred. A more proactive approach on the part of the Division could serve to detect any problems caused by the proposed RIBs in time to prevent further degradation from occurring. Another option would be to require weekly testing of peizometer water for specific conductance and pH, to determine if contaminants are leaching from the RIBs.”

NDEP Response 7: NDEP believes the original and newly added (NDEP Response 3) permit monitoring and operational requirements will adequately identify any potential for degradation.

GBMW Comment 8: “The Division should also develop or require the operator to develop a contingency plan to outline remediation steps to be taken in the event that groundwater degradation is detected, indicating that the RIBs do not function as designed, or that the predictions were not correct. The provisions for any necessary remedial steps should be written into the permit.”

NDEP Response 8: The data provided with the permit application package do not indicate degradation will occur. An Emergency Response Plan is part of the permit application package, however, it is not reasonable to develop something as specific as a remediation plan for all unidentified problems. NDEP believes the monitoring and operational requirements are adequate as specified in the permit. In the event the required monitoring begins to indicate potential groundwater degradation, the NDEP will take appropriate measures, including but not limited to, ordering an immediate cessation of discharge, if circumstances warrant.

Prepared by: Miles G. Shaw

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